

Group IV: Claims 19-22, drawn to a fluoropolymer; and

Group V: Claim 23, drawn to a solid polymer electrolyte membrane.

In addition, the Examiner is requiring election of a single disclose species for each group as follows:

Group I: For Fluoromonomer B

1. Formula (1) wherein X is fluorine;
2. Formula (1) wherein X is chlorine;
3. Formula (1) wherein X is OM;
4. Formula (1) wherein SO_2X is SO_3H ;
5. Formula (2) wherein X is fluorine;
6. Formula (2) wherein X is chlorine;
7. Formula (2) wherein X is OM;
8. Formula (2) wherein SO_2X is SO_3H ;
9. Formula (6) wherein X is fluorine;
10. Formula (6) wherein X is chlorine; and
11. Formula (6) wherein X is OM.

For Fluoromonomer A

1. Formula (3);
2. Formula (4);
3. Formula (5);
4. perfluoro (3-butenyl vinyl ether);
5. perfluoro (2,2-dimethyl-1, 3-dioxole);
6. perfluoro (1,3-dioxole);

7. 2,2,4-trifluoro-5-trifluoromethoxy-1,3-dioxole; and
8. perfluoro (2-methylene-4-methyl-1,3-dioxolane).

Group II: For Fluoromonomer B¹

1. Formula (1') wherein M is a hydrogen atom;
2. Formula (1') wherein M is an alkali metal atom;
3. Formula (1') wherein M is a group of NR¹R²R³R⁴;
4. Formula (2') wherein M is a hydrogen atom;
5. Formula (2') wherein M is an alkali metal atom;
6. Formula (2') wherein M is a group of NR¹R²R³R⁴;
7. Formula (6') wherein M is a hydrogen atom;
8. Formula (6') wherein M is an alkali metal atom; and
9. Formula (6') wherein M is a group of NR¹R²R³R⁴;

For Fluoromonomer A

1. Formula (3);
2. Formula (4);
3. Formula (5);
4. perfluoro (3-butenyl vinyl ether);
5. perfluoro (2,2-dimethyl-1, 3-dioxole);
6. perfluoro (1,3-dioxole);
7. 2,2,4-pefluoro-5-trifluoromethoxy-1,3-dioxole; and
8. perfluoro (2-methylene-4-methyl-1,3-dioxolane).

Group III: For Fluoromonomer B'

1. Formula (1'')
2. Formula (2''); and
3. Formula (6').

For Fluoromonomer A

1. Formula (3);
2. Formula (4);
3. Formula (5);
4. perfluoro (3-butenyl vinyl ether);
5. perfluoro (2,2-dimethyl-1, 3-dioxole);
6. perfluoro (1,3-dioxole);
7. 2,2,4-pefluoro-5-trifluoromethoxy-1,3-dioxole; and
8. perfluoro (2-methylene-4-methyl-1,3-dioxolane).

Group IV: For the Fluoropolymer

1. Formula (I) and Formula (II) wherein M is a hydrogen atom;
2. Formula (I) and Formula (II) wherein M is an alkali metal atom;
3. Formula (I) and Formula (II) wherein M is a group $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4$;
4. perfluoro (3-butenyl vinyl ether) and Formula (II) wherein M is a hydrogen atom;
5. perfluoro (3-butenyl vinyl ether) and Formula (II) wherein M is an alkali metal atom;
6. perfluoro (3-butenyl vinyl ether) and Formula (II) wherein M is a group $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4$;
7. perfluoro (2-methylene-4-methyl-1,3-dioxolane) and Formula (II) wherein M is a hydrogen atom;
8. perfluoro (2-methylene-4-methyl-1,3-dioxolane) and Formula (II) wherein M is an alkali metal atom;

9. perfluoro (2-methylene-4-methyl-1,3-dioxolane) and Formula (II) wherein M is group $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4$;
10. Formula (I), Formula (II) wherein M is a hydrogen atom and tetrafluoroethylene;
11. Formula (I), Formula (II) wherein M is an alkali metal atom and tetrafluoroethylene; and
12. Formula (I), Formula (II) wherein M is a group $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4$ and tetrafluoroethylene.

Group V: For the Fluoropolymer

1. Formula (I), Formula (II) wherein M is a hydrogen atom and tetrafluoroethylene;
2. Formula (I), Formula (II) wherein M is an alkali metal atom and tetrafluoroethylene; and

Formula (I), Formula (II) wherein M is a group $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4$ and tetrafluoroethylene.

Applicants have elected, with traverse, Group I; Claims 1-12, drawn to a solid polymer electrolyte for examination. In addition, Applicants elect, with traverse, for search purposes only, formula (4) for fluoromonomer A and formula (2) wherein SO_2X is SO_3H for fluoromonomer B for examination. Claims 1-12 read on the elected species.

Restriction is only proper if the claims of the restricted groups are independent or patentably distinct and there would be a serious burden placed on the Examiner if restriction is not required (M.P.E.P. § 803). The burden of proof is on the Examiner to provide reasons and/or examples, to support any conclusion in regard to patentable distinctness (M.P.E.P. § 803). Applicants respectfully traverse the restriction requirement on the grounds that the

Examiner has not carried the burden of providing sufficient reason and/or examples to support any conclusion that the claims of the restricted groups are patentably distinct.

The Examiner has categorized the relationships between Groups I and II or III or IV or V as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)).

The Examiner states that "...the combination as claimed does not require the particulars of the subcombinations as claimed because Group I requires a fluoromonomer B of the formula $\text{CF}_2=\text{CF}(\text{R}^f)_j\text{SO}_2\text{X}$, which is not required by the remaining groups. The subcombination has separate utility such as fluoropolymer may be used as a binder material."

However, the Examiner has provided insufficient support in her belief, and therefore, the Examiner's reasoning is nearly a restatement of the Examiner's conclusion that the groups are patentably distinct. As the Examiner has provided insufficient reasons in her belief, the Examiner has not met the burden placed upon her, and accordingly, the restriction is believed to be improper and should be withdrawn.

The Examiner has categorized the relationships between Groups II and III or IV or V as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)).

The Examiner states that "...the combination as claimed does not require the particulars of the subcombination as claimed because Group II requires a liquid composition wherein a fluoromonomer B' is dissolved or dispersed in an organic solvent, which is not

required by the remaining groups. The subcombination has separate utility such as the liquid composition can be used as a gel electrolyte material.”

However, the Examiner has provided insufficient support in her belief, and therefore, the Examiner’s reasoning is nearly a restatement of the Examiner’s conclusion that the groups are patentably distinct. As the Examiner has provided insufficient reasons in her belief, the Examiner has not met the burden placed upon her, and accordingly, the restriction is believed to be improper and should be withdrawn.

The Examiner has categorized the relationships between Groups III and IV or V as combination and subcombination. Inventions in this relationships are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)).

The Examiner states that “...the combination as claimed does not require the particulars of the subcombination as claimed because Group III requires the fluoropolymer (copolymer) be contained in the cathode, which is not required by the remaining groups. The subcombination has separate utility such as the solid polymer electrolyte may be used as the solid polymer electrolyte membrane (between the anode and cathode of a fuel cell).”

However, the Examiner has provided insufficient support in her belief, and therefore, the Examiner’s reasoning is nearly a restatement of the Examiner’s conclusion that the groups are patentably distinct. As the Examiner has provided insufficient reasons in her belief, the Examiner has not met the burden placed upon her, and accordingly, the restriction is believed to be improper and should be withdrawn.

The Examiner has categorized the relationship between Group IV and V as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as does not require the particulars of the subcombination as

claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05 (c)).

The Examiner states that "...the combination as claimed does not require the particulars of the subcombination as claimed because Group IV requires a fluoropolymer having a repeating unit of formula (I), which is not required by the remaining groups. The subcombination has separate utility such as a fluoropolymer may be used as a binder material."

However, the Examiner has provided insufficient support in her belief, and therefore, the Examiner's reasoning is nearly a restatement of the Examiner's conclusion that the groups are patentably distinct. As the Examiner has provided insufficient reasons in her belief, the Examiner has not met the burden placed upon her, and accordingly, the restriction is believed to be improper and should be withdrawn.

In addition, Applicants respectfully traverse the Election of Species Requirement on the grounds that the Office has not provided any reasons, whatsoever, to support the conclusion of patentable distinctness. Rather, the Office has merely stated the conclusion.

Applicants make no statement regarding the patentable distinctness of the species, but note that for restriction to be proper, there must be a patentable difference between the species as claimed (MPEP § 808.01(a)). The Office has not provided any reasons or examples to support a conclusion that the species are indeed patentably distinct. Accordingly, Applicants respectfully submit that the restriction is improper, and Applicants' election of species is for examination purposes only.

Accordingly, and for the reasons presented above, Applicants submit that the Office has failed to meet the burden necessary in order to sustain the Election of Species Requirement. Withdrawal of the Election of Species Requirement is respectfully requested.

With respect to the elected species, Applicants respectfully submit that, should the elected species be found allowable, the Office should expand its search to the non-elected species.

Finally, Applicants respectfully submit that the Office has not shown that a serious burden exists in searching the entire application.


Applicants submit this application is now in condition for examination on the merits and early notification of such action is earnestly solicited.

Respectfully submitted,

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